SELECTION STATEMENT
FOR
THE INDEPENDENT VERIFICATION AND VALIDATION (IV&V) OF SOFTWARE SERVICES PROCUREMENT

On April 26, 2005, I met with senior officials from Goddard Space Flight Center (GSFC) and NASA Headquarters to hear the Source Evaluation Board (SEB) present its proposal evaluation findings for the Independent Verification and Validation (IV&V) of Software Services procurement.

PROCUREMENT DESCRIPTION

The IV&V competitive procurement is a complete follow-on to NASA's Contract NAS2-96024, a Cost-Plus-Award-Fee (CPAF), Performance-Based Contract for IV&V of Software Services. Under this effort, the Contractor shall provide the necessary personnel, materials, and facilities, to fulfill several functional requirements. The principal purpose of the IV&V contract is to provide a system engineering process employing rigorous methodologies for evaluating the correctness and quality of the software product throughout the software life cycle. Project support including functions and requirements as outlined in the Statement of Work and Work Breakdown Structure (WBS) are included.

This competitive procurement was structured to allow the award of multiple CPAF, Indefinite Delivery, Indefinite Quantity contracts. The minimum amount of supplies or services that shall be ordered is $100,000 with a maximum of $200,000,000 for each contract. The contracts will have an effective ordering period of 5 years from the contractual effective date.

EVALUATION PROCEDURES

The evaluation was conducted in accordance with the source selection procedures identified in Federal Acquisition Regulation (FAR) 15.3 and NASA FAR Supplement 1815.3, and the Request for Proposal (RFP) evaluation criteria. The RFP stated that the factors used for evaluation would be mission suitability, Cost/Price, and Past Performance. The RFP specified the relative order of importance of the evaluation factors as follows:

"The Cost Factor is significantly less important than the combined importance of the mission suitability factor and the Past Performance Factor. As individual factors, the mission suitability factor is the most important and the Past Performance Factor is more important than the Cost Factor."

Within mission suitability, the following four subfactors were evaluated and scored using the identified weights to allocate 1,000 available points:

Mission Suitability Subfactors	Points
Subfactor A: Understanding the Requirements/Technical Approach	500
Subfactor B: Management Plan	400
Subfactor C: Safety and Health Plan	50
Subfactor D: Small Disadvantaged Business Participation Program	50
Total	1000

The Past Performance Evaluation was conducted in accordance with FAR 15.305(a)(2) and NFS 1815.305(a)(2), "Past Performance Evaluation". Within the Past Performance Factor, an Offeror, along with its teaming partner(s) and/or major subcontractor(s), were evaluated in the following four areas: Technical Performance, Schedule Performance, Cost Performance, and Business Relations. This factor was not point scored. One of the following adjectival ratings was assigned: Excellent, Very Good, Good, Fair or Poor.

Regarding the Cost/Price Factor, the RFP stated that the proposed costs of the Representative Task Order (RTOs) and the direct labor rates proposed in Attachment B were evaluated for reasonableness and cost realism. The Cost/Price Factor evaluation was conducted in accordance with FAR 15.305(a)(1) and NFS 1815.305(a)(1)(B) and (C). In accordance with the NFS, the SEB analysis included a "level of confidence in the probable cost assessment for each proposal." The proposed and probable total cost-plus-award-fee and loaded average hourly rates were presented to the Source Selection Authority. The RFP stated that mission suitability scores would be downwardly adjusted based on the degree of cost realism. These adjustments were based on the structured approach contained in RFP Provision M.4.2, Adjustments for Cost Realism.

EVALUATION PROCESS

NASA's Source Selection Authority for this procurement appointed the SEB, along with a team of Technical and Business Consultants, comprised of members from appropriate disciplines, to assist in the proposal evaluation. The SEB developed and incorporated into the RFP a set of detailed criteria for evaluation. NASA issued the RFP on August 20, 2004. Three timely proposals were received on October 18, 2004 from the following contractors:

1. **Northrop Grumman Information Technology (NGIT)**
2. **Titan Corporation**
3. **Science Applications International Corporation (SAIC)**

The SEB completed its initial evaluation of proposals and documented its findings in a written report dated April 7, 2005.

MISSION SUITABILITY EVALUATION

Based on the scoring of each subfactor in accordance with the weights delineated in the RFP, the ranking of the offerors based on total mission suitability points is as follows:

1. Northrop Grumman Information Technology (NGIT)
2. Titan Corporation
3. Science Applications International Corporation (SAIC)

The substance of the SEB's evaluation of Mission Suitability for each proposal follows:

Northrop Grumman

NGIT received an overall adjectival rating of "Very Good", and the highest Mission Suitability score by a significant margin.

In Subfactor A: Understanding the Requirements, NGIT was rated "Excellent" receiving three significant strengths, three strengths, and two weaknesses. NGIT received the following three significant strengths: (1) Excellent understanding and overall approach to IV&V which demonstrates an excellent understanding of NGIT's knowledge and ability to provide highly successful IV&V services support; (2) Outstanding continuous improvement and quality management approach demonstrates a strong commitment to continuous process improvement and significantly increases their potential to exceed contract requirements; (3) Comprehensive technical approach to the RTOs demonstrates an excellent understanding of how to perform IV&V and provides a high level of confidence that they can provide an appropriate level of assurance for any NASA mission.

NGIT received the following three strengths: (1) Tool resourcing process that will increase tool reuse, accelerate tool development, and reduce the government cost for tool development; (2) Very good approach to staffing that incorporates workforce recruiting, workforce planning, and resource retention; (3) Clear understanding of KM3 critical risks and issues associated with software development and IV&V analysis that improves their ability to find technical errors early in the software development process.

NGIT received the following two weaknesses: (1) Insufficient RTO schedule detail that could impact cost and schedule; (2) CEV8D study overstaffing that reduces the level of confidence in their ability to successfully perform the special study in addition to potentially incurring a cost impact to the overall RTO.

In Subfactor B: Management Plan, NGIT was rated "Good" receiving three strengths and one weakness.

NGIT received the following three strengths: (1) Very good management structure, roles, responsibilities, and lines of communication that provides increased confidence in their ability to effectively manage in a dynamic situation, be responsive to NASA's needs, and

keep NASA informed about project status; (2) Very good task order management system that will provide for more accurate, timely, and repeatable RFO submittals, and increased confidence that the quality of the final task will be improved; (3) Progressively increasing subcontracting goals which indicates their intent to distribute more work as time and skills increase.

NGIT received the following weakness: (1) Inadequate Mentor-Protege Plan and detailed evaluation metrics for each protégé do not provide confidence that proposed Mentor-Protégé Plan will result in additional qualified IV&V service providers in the future.

In Subfactor C: Safety and Health Plan, NGIT was rated "Good" receiving no strengths and no weaknesses.

In Subfactor D: Small Business Participation Program, NGIT was rated "Good" receiving no strengths and no weaknesses.

TITAN

Titan received an overall adjectival rating of "Good", which included the impact of a Mission Suitability point adjustment. Titan received the second highest mission suitability score by a significant margin over the next closest proposal.

In Subfactor A: Understanding the Requirements/Technical Approach, Titan was rated "Very Good" receiving one significant strength, four strengths, and three weaknesses.

Titan received a significant strength for excellent identification and mitigation of RTO risks and issues. Titan's risk identification, impact assessment, and mitigations will improve IV&V planning and significantly reduce issues that need to be addressed during IV&V execution.

Titan received the following four strengths: (1) Overall very good technical approach that provides firm confidence that Titan understands the required technical work, and can provide a proper level of assurance across the diversity of missions and software; (2) Detailed CMMI plan that, based on their gap assessment and coupled with their detailed schedule, provides confidence that they will achieve CMMI Level 2+ ahead of schedule; (3) Highly qualified staffing approach that provides confidence that task orders will be staffed with qualified and experienced personnel; (4) Mission, domain, and software insight in RTO technical approach when incorporated into their approach will improve chances to uncover hard-to-find errors in complex and critical missions and software.

Titan received the following three weaknesses: (1) Incomplete approach to accommodating changes in software development provides a lack of confidence that Titan can efficiently accommodate changes in development schedule, approach, and content which could result in additional unanticipated costs and/or schedule delays; (2) Technical approach to RTOs lacks detailed implementation for most of the WBS elements required for each of the RTOs that reduces NASA's confidence in their

adaptability and ability to vary their analysis approach, which could result in unnecessary work, and/or reduced efficiency; (3) CEV RTO staffing was low in high risks areas and during the concept phase limiting early detection of errors and potentially impacts future IV&V tasks, which results in a risk to successful application to IV&V.

In Subfactor B: Management Plan, Titan was rated "Good" receiving two strengths and one weakness.

Titan received the following two strengths: (1) Subcontracting goal exceeds requirement showing good intention of the contractor to provide business opportunities under this procurement; (2) Mentor-Protégé plan exceeds requirements and included a well-defined approach for each protégé providing increased confidence that the proposed plan will result in additional qualified IV&V service providers in the future.

Titan received a weakness for their organizational structure showing a lack of definition for the roles and responsibilities of the technical leads which could create interface confusion for the government managers, and may impact Titan's schedule to achieve their CMMI goals, as well as jeopardize continuous process improvement initiatives throughout the life cycle of the contract.

Subfactor C: Safety and Health Plan, Titan was rated "Good" receiving no strengths and no weaknesses.

Subfactor D: Small Business Participation Program, Titan was rated "Good" receiving no strengths and no weaknesses.

SAIC

SAIC received an overall adjectival rating of "Fair", which included the impact of a Mission Suitability point adjustment.

In Subfactor A: Understanding the Requirements/Technical Approach, SAIC was rated "Fair" receiving three strengths, three weaknesses, and three significant weaknesses.

SAIC received the following three strengths: (1) Effective, innovative, responsive assessment and transition of new tools which allows for process efficiency resulting from technical analysis on project management efficiency; (2) Very good staffing plan that provides continuity in the workforce with minimal disruption to completing IV&V tasks and deliverables; (3) Accessible and effective data retention system clearly demonstrates their fulfillment of all document control requirements and a very effective solution that can easily be tailored to future facility efforts to establish formal knowledge repositories.

SAIC received the following three weaknesses: (1) Incomplete approach to accommodating changes in software development which could impact their ability to adjust to software development changes; (2) RTO schedules not aligned with project schedules and exhibit flaws which decreases NASA's confidence that SAIC understands

how to properly integrate the IV&V effort with the life cycle; (3) KM3 and CEV8D staffing was underestimated which could impact their ability to accomplish satisfactory IV&V analysis or cause late delivery of IV&V products.

SAIC received the following three significant weaknesses: (1) Overall technical approach lacks significant information and does not demonstrate an understanding of the IV&V technical requirements which greatly reduces the level of confidence in SAIC's ability to effectively provide an appropriate level of assurance; (2) Inadequate technical approach to both RTOs and overall lack of understanding significantly reduces confidence that SAIC can provide a technically sound approach for IV&V within cost and schedule; (3) Insufficient RTO issue and risk identification which results in poor planning and execution of IV&V efforts.

Subfactor B: Management Plan, SAIC was rated "Good" receiving one strength and 2 weaknesses.

SAIC received a strength for their subcontracting goal which exceeded NASA's requirement and demonstrates the good intention of the contractor to provide business opportunities under this procurement.

SAIC received the following two weaknesses: (1) Incomplete approach to risk management and failed to identify risk mitigations or impacts reducing the level of confidence in SAIC's ability to adequately identify or mitigate risks associated with IV&V performance or mission software; (2) Organizational conflict of interest does not address subcontractors and there is not proposed mechanism for identifying subcontractor OCI if it develops during contract execution. As a result, their approach provides a low level of confidence as to whether OCI will be identified within their subcontractor pool and may impact future/proposed work.

Subfactor C; Safety and Health Plan, SAIC was rated "Good" receiving no strengths and no weaknesses.

Subfactor D: Small Business Participation Program, SAIC was rated "Good" receiving no strengths and no weaknesses.

PAST PERFORMANCE EVALUATION FACTOR

In evaluating Past Performance, NGIT was rated "Excellent". The NGIT team possesses relevant past performance experience related to the IV&V requirements and received mostly excellent and some very good ratings. NGIT possesses a significant degree of experience in the management of full life cycle IV&V efforts and continuous improvement. Titan was rated "Very Good". Titan possesses relevant past performance experience related to the IV&V requirements and received many excellent and some very good ratings. Titan posseses a significant degree of experience in the management of full life cycle IV&V efforts and a significant/moderate degree of experience in continuous

improvement. SAIC was rated "Very Good. SAIC possesses relevant past performance experience related to the IV&V requirements and received many excellent with some very good, good, and not rated ratings. SAIC possesses a significant/moderate degree of experience in the management of full life cycle IV&V efforts and continuous improvement.

COST/PRICE EVALUATION FACTOR

The order of the Offerors' total proposed cost for all RTOs from lowest to highest is as follows: SAIC, Titan, and NGIT. Based on the proposed total average hourly rate, the order from lowest to highest is as follows: SAIC, NGIT, and Titan. The substance of the SEB's probable cost assessment for each proposal follows: SAIC had the lowest total RTO probable cost and the second highest probable average hourly rate. Based on the technical evaluation, the SEB made direct labor hour adjustments resulting in an increase in costs and a cost realism Mission Suitability point adjustment. The SEB had a high level of confidence in the probable cost.

Titan had the second lowest total RTO probable cost and the lowest probable average hourly rate. The SEB made significant upward adjustments for direct labor hours based on the technical evaluation. These adjustments resulted in a cost realism Mission Suitability point adjustment. The SEB had a high level of confidence in the probable cost.

NGIT had the highest total RTO probable cost and the highest probable average hourly rate. Based on the technical evaluation, the SEB made adjustments for incorrect direct labor rates, DCAA rate adjustments, and direct labor hours. These increases did not result in a Mission Suitability point adjustment. The SEB had a high level of confidence in the probable cost.

Overall, while significant differences in the total RTO probable cost existed, the differences in the average hourly rates were less than 10 percent amongst the three offerors.

DECISION

During the presentation, I carefully considered the detailed findings the SEB presented. I noted that the SEB report accompanying the findings further amplified each finding in extensive detail. I solicited, received, and considered the views of key senior GSFC personnel and SEB members who were in attendance at the presentation. These key senior personnel have responsibility related to this acquisition and understood the application of the evaluation factors set forth in the RFP.

In determining which proposal(s) offered the best value to NASA, I referred to the relative order of importance of the three evaluation factors stated in the RFP: "The Cost Factor is significantly less important than the combined importance of the Mission Suitability Factor and the Past Performance Factor. As individual factors, the mission

suitability Factor is the most important and the Past Performance Factor is more important than the Cost Factor." My selection was based on a comparative assessment of each proposal against each of the three factors.

This solicitation allowed for multiple awards. Multiple awards will provide the IV&V facility with a higher assurance of continuity of Contractor support. The two successful offerors, NGIT and Titan Corporation's mission suitability scores were significantly higher than that of the unsuccessful offeror SAIC. While NGIT had a higher overall mission suitability score, that score was not so much higher as to warrant a single award. Further, Titan's mission suitability proposal was of sufficient overall quality as to provide confidence that they would perform successfully. The lower total RTOs probable cost of the unsuccessful offeror did not offset the significant mission suitability variance. In addition, the moderate difference in the total Average Hourly Cost of Business did not offset the mission suitability variance. The differences in the past performance ratings were not discriminators in the selection decision. Therefore, I selected NGIT and Titan Corporation for contract awards in support of IV&V Services.

Approval:

Bryan O'Connor

Bryan O'Connor
Source Selection Official

3 MAY 05
Date